

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q88296

Gianfranco GILARDI

Appln. No.: Unassigned

Confirmation No.: Unassigned

Group Art Unit: Unassigned

Filed: June 3, 2005

Examiner: Unassigned

For: ENGINEERING REDOX PROTEINS

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. §§ 1.97 and 1.98**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and/or listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. Gianfranco Gilardi et al., "Manipulating redox systems: application to nanotechnology", *TRENDS in Biotechnology*, Vol. 19, No. 11, November 2001, pp. 468-476.
2. Paul F. Predki et al., "Redesigning the Topology of a Four-Helix-Bundle Protein: Monomeric Rop", *Biochemistry*, Vol. 34, 1995, pp. 9834-9839.
3. Gianfranco Gilardi et al., "Molecular Lego: design of molecular assemblies of P450 enzymes for nanobiotechnology", *Biosensors & Bioelectronics*, Vol. 17, 2002, pp. 133-145.
4. Sheila J. Sadeghi et al., "Engineering artificial redox chains by molecular 'Lego'", *Faraday Discuss.*, Vol. 116, 2000, pp. 135-153.

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5. Jon R. Wilson et al., "Engineering redox functions in a nucleic acid binding protein", *Chemical Communications*, Vol. 9, No. 3 (XP-002274852), February 7, 2003, pp. 356-357.
6. Mary Munson et al., "ColE1-compatible vectors for high-level expression of cloned DNAs from the T7 promoter", *Gene*, Vol. 144, 1994, pp. 59-62.
7. Itamar Willner et al., "Integration of a Reconstituted de Novo Synthesized Hemoprotein and Native Metalloproteins with Electrode Supports for Bioelectronic and Bioelectrocatalytic Applications", *J. Am. Chem. Soc.*, Vol. 121, 1999, pp. 6455-6468.
8. Zhijin Xu et al., "Design, synthesis, and characterization of a novel hemoprotein", *Protein Science*, Vol. 10, 2001, pp. 236-249.
9. Luisa Castagnoli et al., "Linking an Easily Detectable Phenotype to the Folding of a Common Structural Motif", *J. Mol. Biol.*, Vol. 237, 1994, pp. 378-387.
10. Julia M. Shifman et al., "Heme Redox Potential Control in de Novo Designed Four- $\alpha$ -Helix Bundle Proteins", *Biochemistry*, Vol. 39, 2000, pp. 14813-14821.
11. Annette Pasternak et al., "Proton and metal ion-dependent assembly of a model diiron protein", *Polymer Science*, Vol. 10, 2001, pp. 958-969.
12. Wolfgang Eberle et al., "Proton Nuclear Magnetic Resonance Assignments and Secondary Structure Determination of the ColE1 rop (rom) Protein", *Biochemistry*, Vol. 29, 1990, pp. 7402-7407.

One copy of each of the listed documents is submitted herewith, along with a copy of the corresponding International Search Report which cites items 1-5 identified above.

The present Information Disclosure Statement is being filed: (1) No later than three months from the application's filing date; (2) Before the mailing date of the first Office Action on the merits (whichever is later); or (3) Before the mailing date of the first Office Action after filing a request for continued examination (RCE) under §1.114, and therefore, no Statement under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

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The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

  
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INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Application Number	Unassigned
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Filing Date	June 3, 2005
First Named Inventor	Gianfranco GILARDI
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	Q88296

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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		Number	Kind Code <sup>2</sup> (if known)		
		US			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation <sup>6</sup>
		Country Code <sup>3</sup>	Number <sup>4</sup>			

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.			Translation <sup>6</sup>
		Gianfranco Gilardi et al., "Manipulating redox systems: application to nanotechnology", <i>TRENDS in Biotechnology</i> , Vol. 19, No. 11, November 2001, pp. 468-476			
		Paul F. Predki et al., "Redesigning the Topology of a Four-Helix-Bundle Protein: Monomeric Rop", <i>Biochemistry</i> , Vol. 34, 1995, pp. 9834-9839			
		Gianfranco Gilardi et al., "Molecular Lego: design of molecular assemblies of P450 enzymes for nanobiotechnology", <i>Biosensors &amp; Bioelectronics</i> , Vol. 17, 2002, pp. 133-145			
		Sheila J. Sadeghi et al., "Engineering artificial redox chains by molecular 'Lego'", <i>Faraday Discuss.</i> , Vol. 116, 2000, pp. 135-153			
		Jon R. Wilson et al., "Engineering redox functions in a nucleic acid binding protein", <i>Chemical Communications</i> , Vol. 9, No. 3 (XP-002274852), February 7, 2003, pp. 356-357			
		Mary Munson et al., "ColE1-compatible vectors for high-level expression of cloned DNAs from the T7 promoter", <i>Gene</i> , Vol. 144, 1994, pp. 59-62			
		Itamar Willner et al., "Integration of a Reconstituted de Novo Synthesized Hemoprotein and Native Metalloproteins with Electrode Supports for Bioelectronic and Bioelectrocatalytic Applications", <i>J. Am. Chem. Soc.</i> , Vol. 121, 1999, pp. 6455-6468			
		Zhijin Xu et al., "Design, synthesis, and characterization of a novel hemoprotein", <i>Protein Science</i> , Vol. 10, 2001, pp. 236-249			
		Luisa Castagnoli et al., "Linking an Easily Detectable Phenotype to the Folding of a Common Structural Motif", <i>J. Mol. Biol.</i> , Vol. 237, 1994, pp. 378-387			
		Julia M. Shifman et al., "Heme Redox Potential Control in de Novo Designed Four- $\alpha$ -Helix Bundle Proteins", <i>Biochemistry</i> , Vol. 39, 2000, pp. 14813-14821			
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Examiner Signature		Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov), MPEP 901.04 or in the comment box of this document. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to indicate here if English language Translation is attached.